

# The Unified Future

by elblanco on reddit

v1.0

# The Unified Future

What will the future of gaming look like? In this thought piece, I propose a near future vision of a unified personal computing environment centered on portable computing. Everything presented here is currently possible, all of the technology actually exists or will exist on the near horizon, it's just never been pulled together in one place.

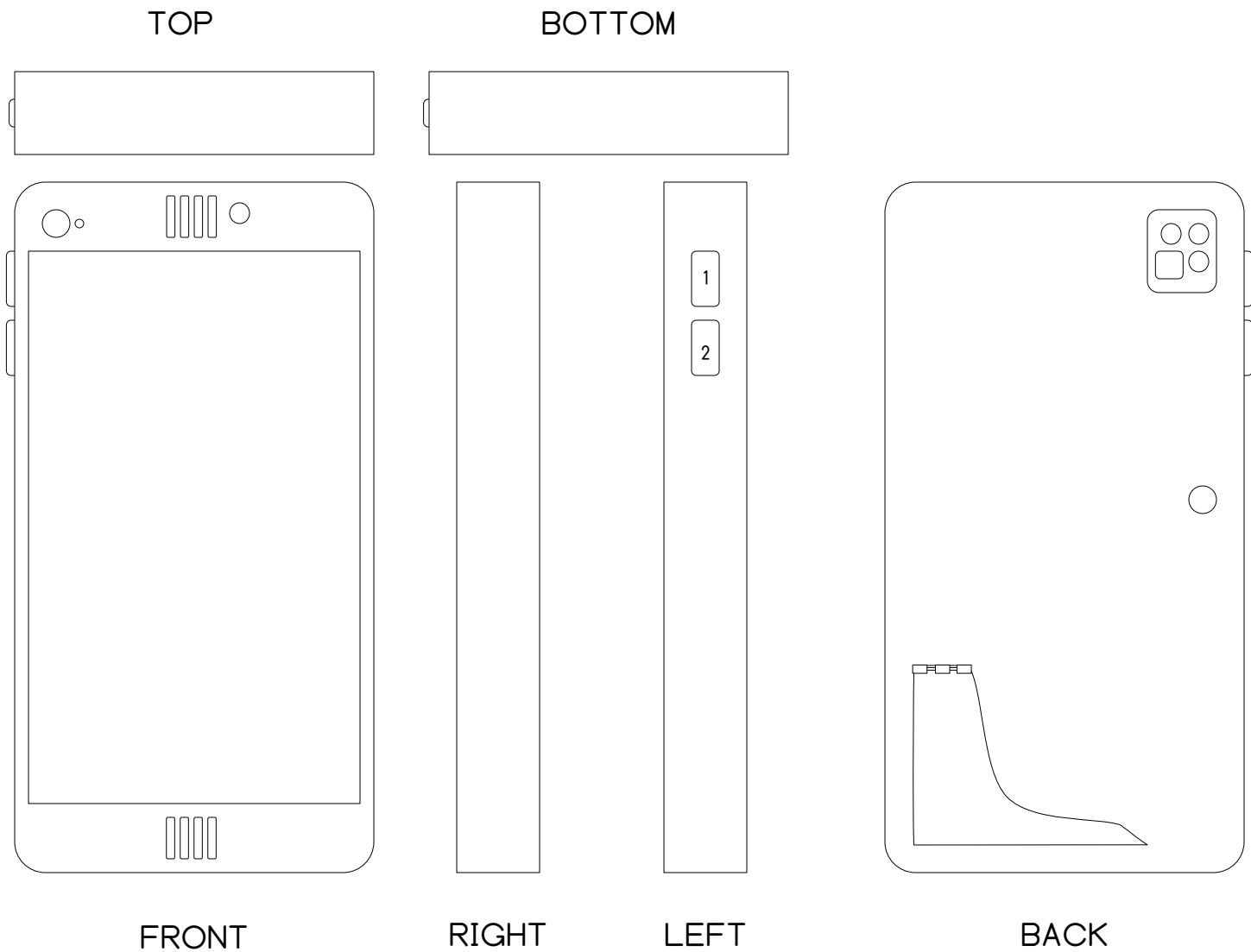
This piece is light on details, but intended to stimulate thinking around the unification of computing in this direction. Is this a good idea? A bad idea? Some bits of pieces of this integration have already been tried to varying levels of success. I believe that whatever company can achieve this idea will have the potential to monopolize every day computing for the next decade — or longer.

This piece also focuses mostly on the hardware and general capabilities, but is necessarily light on software and interface details. I also don't propose how powerful the hardware should be because I believe it should be as powerful as is needed to achieve this vision. The current state of the art can probably achieve most of everything presented here in fact.

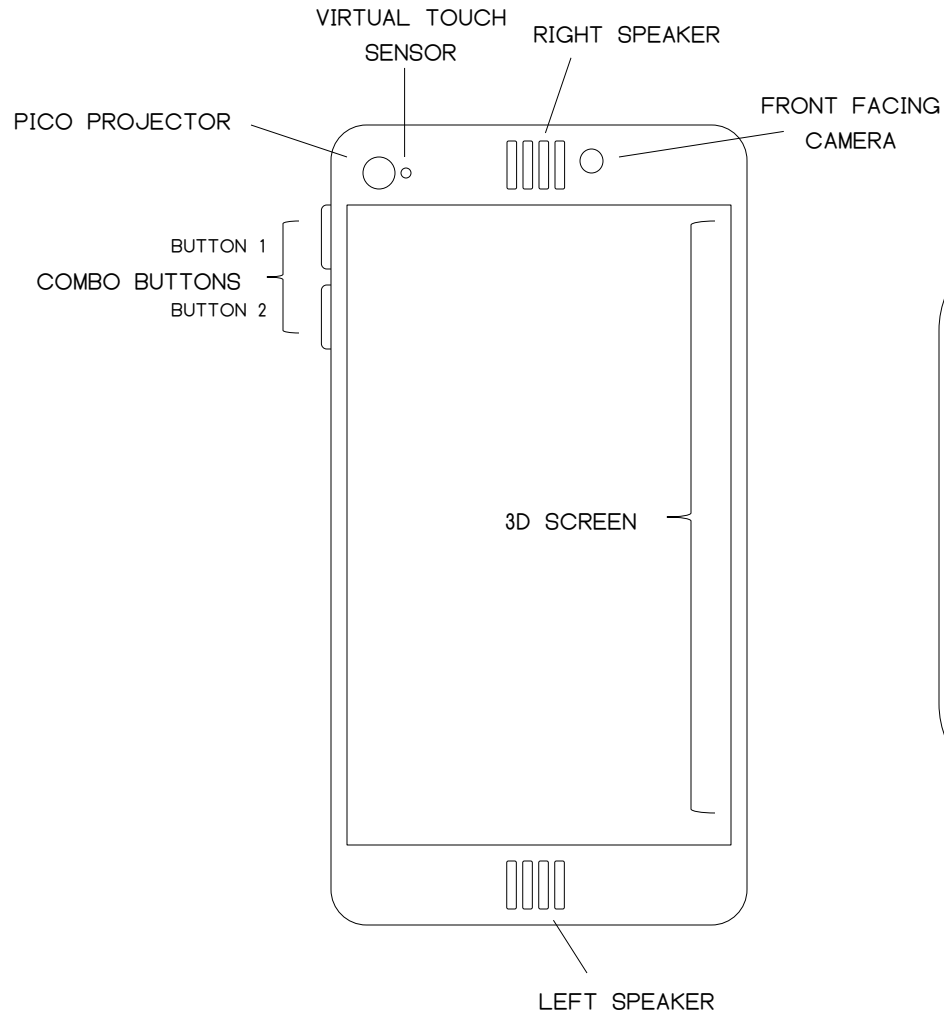
Achieving this won't be easy. But refining this basic idea over a few generations of hardware could evolve it into something as small and light as a credit card, and with abilities I'm not even guessing at yet. But imagine SELMA from the cheesy 90s sci-fi show "*Time Trax*", or more recently Samantha from "*Her*". Need more computing power? Imagine carrying around a "deck of cards" and now you have a powerful computing cluster in your pocket!

Even if you see ideas here that have been tried and failed. Think about the ideas again and in this new context, think about what was wrong with them and how they *could* work. I bet some of them might yet work.

# The “Brick”



# Front

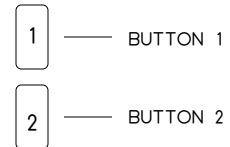


## COMBO BUTTONS

### WHEN POWERED OFF

BUTTON 1 – POWER ON

BUTTON 2 – NO ACTION



### WHEN POWERED ON

BUTTON 1 – HOME

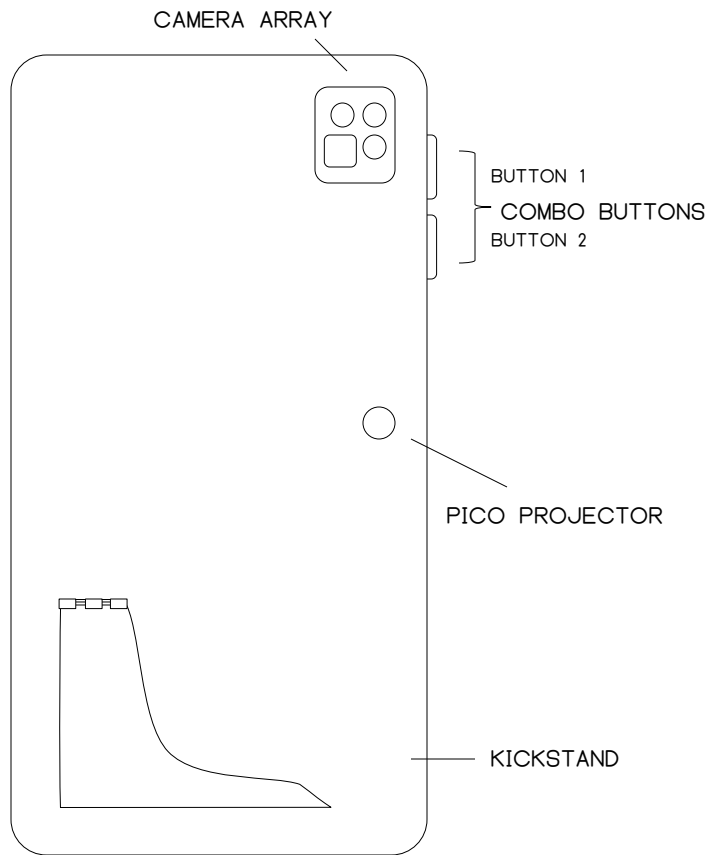
BUTTON 2 – BACK

BUTTON 2 (HOLD) + BUTTON 1 – VOLUME UP/CAMERA ZOOM-IN

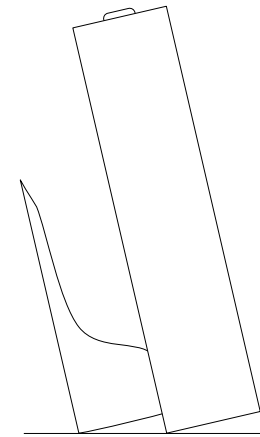
BUTTON 1 (HOLD) + BUTTON 2 – VOLUME DOWN/CAMERA ZOOM-OUT

BUTTON 1 + BUTTON 2 – MENU/TAKE PHOTO

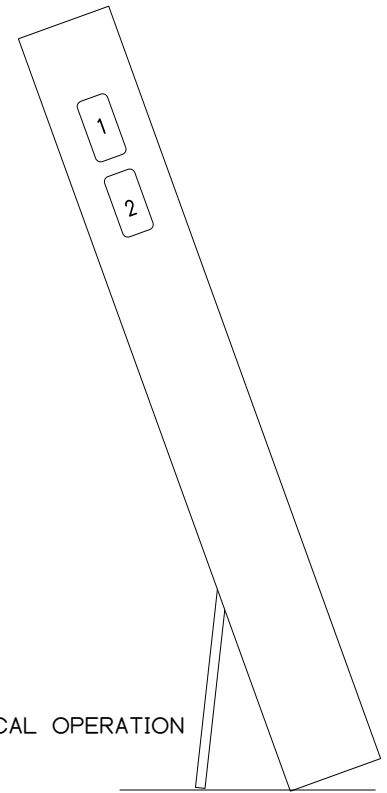
# Back



## KICKSTAND OPERATION

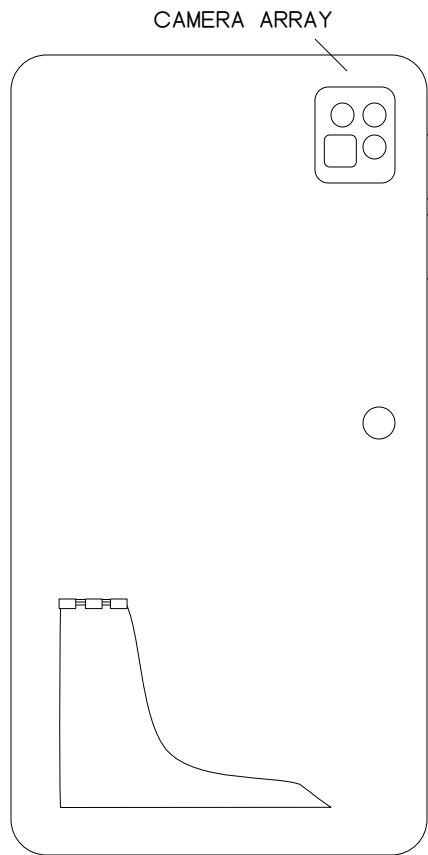


HORIZONTAL OPERATION



VERTICAL OPERATION

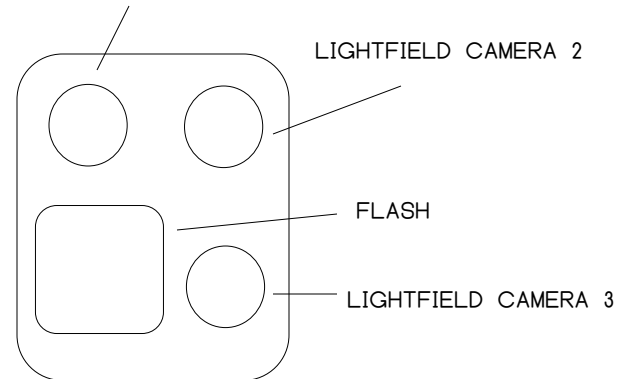
# Camera Array



BACK

## ARRAY DETAILS

LIGHTFIELD CAMERA 1



DIFFERENT COMBINATIONS OF CAMERAS CAN PROVIDE DIFFERENT KINDS OF DIGITAL AND COMPUTATIONAL PHOTOGRAPHY:

- SINGLE CAMERA DIGITAL PHOTOGRAPHY
- TWO CAMERA STEREOSCOPIC 3D
- THREE CAMERA HDR SOLUTION
- THREE CAMERA HIGH SPEED VIDEO
- TWO CAMERA VIDEO WITH SELECTIVE DIGITAL STILLs
- SUPER-RESOLUTION PHOTOGRAPHY
- LOW LIGHT PHOTOGRAPHY

ETC.

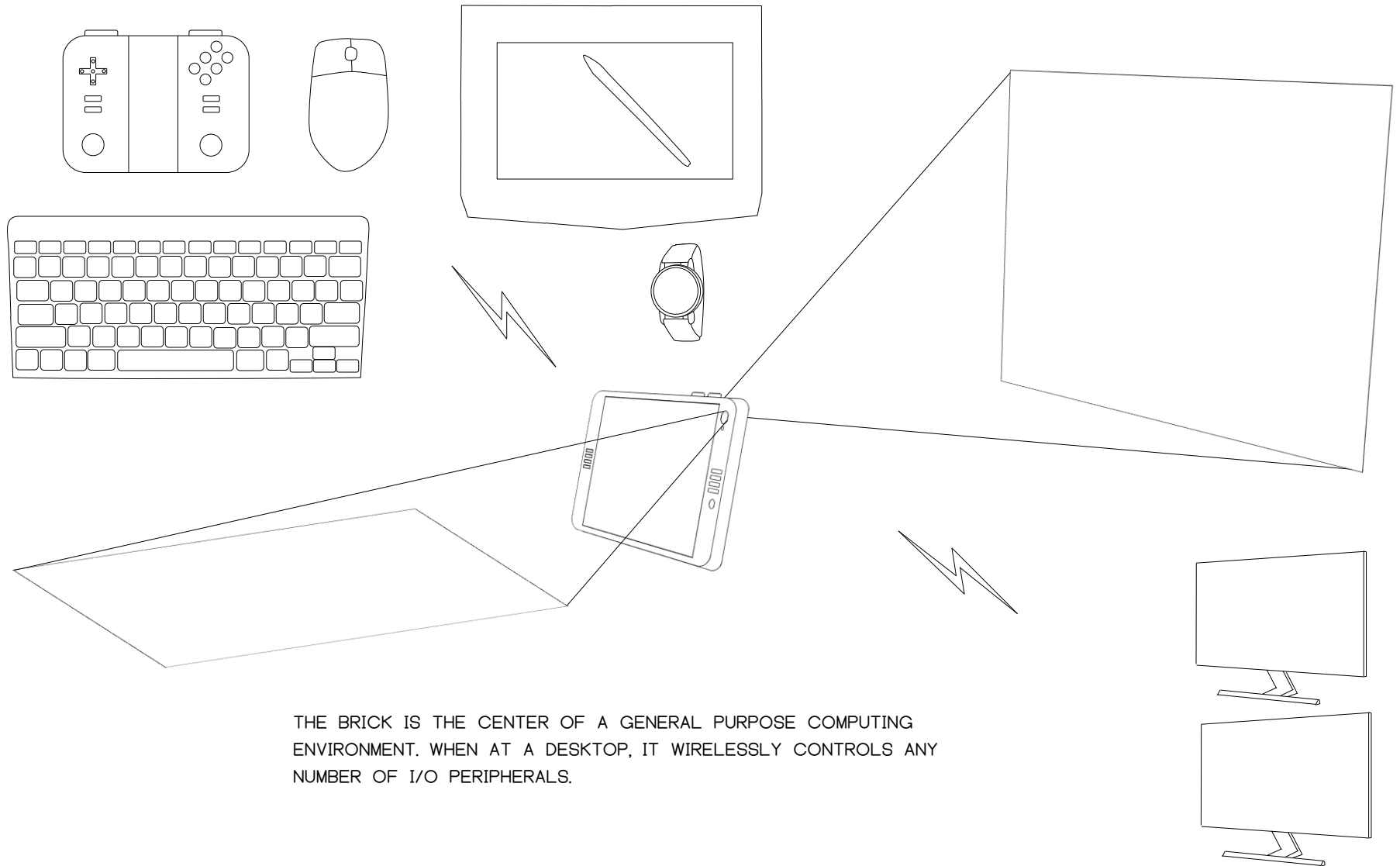
# I/O UNIFICATION AND ROUTING

THE BRICK WILL HAVE A NUMBER OF GENERALLY CONFIGURABLE I/O DEVICES.

I/O #	DEVICE TYPE	CONNECTION
1	INTERACTIVE DISPLAY	FRONT PANEL DISPLAY
2	DISPLAY	REAR PICO PROJECTOR
3	INTERACTIVE DISPLAY	FRONT PICO PROJECTOR
4	DISPLAY	DOCKED EXTERNAL DISPLAY
5	DISPLAY	VR/AR DISPLAY
6	INTERACTIVE DISPLAY	SECONDARY DISPLAY 1
7	GAME CONTROLLER 1	WIRELESS CONTROLLER
N	SOME DEVICE TYPE	SOME CONNECTION TYPE

- DIFFERENT SOFTWARE CAN USE DIFFERENT COMBINATIONS OF I/O DEVICES. THE USER CAN REROUTE OR MIRROR BETWEEN ANY DEVICE OF SIMILAR TYPE. FOR EXAMPLE, THE FRONT PANEL DISPLAY CAN BE REROUTED TO THE FRONT PICO PROJECTOR AND THE SECONDARY DISPLAY 1 CAN BE REROUTED TO THE FRONT PANEL.
- OR THE USER CAN “ATTACH” OTHER DISPLAYS THROUGH A WIRELESS CONNECTION. FOR EXAMPLE, USE A SECONDARY DEDICATED PICO PROJECTOR TO ENABLE A MULTIPLE DESKTOP DISPLAY, OR A LARGER TOUCH TABLET-TYPE DISPLAY TO PROVIDE HIGH RESOLUTION ARTISTIC STYLUS CAPABILITIES FOR ART PROGRAMS.
- MORE LIMITED I/O TYPES CAN ALSO BE ATTACHED AND USED: PHYSICAL INTERACTIVE INTERFACES LIKE PHYSICAL KEYBOARDS WITH UNIQUE CHARACTER SCREENS ON EACH KEY, OR DIGITAL MUSIC INTERFACES WITH SMALL AMPLITUDE DISPLAYS UNDER EACH CONTROL, OR WEARABLE DEVICES LIKE WATCHES OR EVEN GAME CONTROLLERS OF VARIOUS LEVELS OF SOPHISTICATION.
- PHYSICAL I/O DEVICES WILL HAVE A VIRTUAL REPRESENTATION THAT IS USABLE ON AN INTERACTIVE DISPLAY USING AN ON-SCREEN EQUIVALENT AND TOUCH CONTROLS.

# COMPUTING



THE BRICK IS THE CENTER OF A GENERAL PURPOSE COMPUTING ENVIRONMENT. WHEN AT A DESKTOP, IT WIRELESSLY CONTROLS ANY NUMBER OF I/O PERIPHERALS.



# PICO PROJECTORS

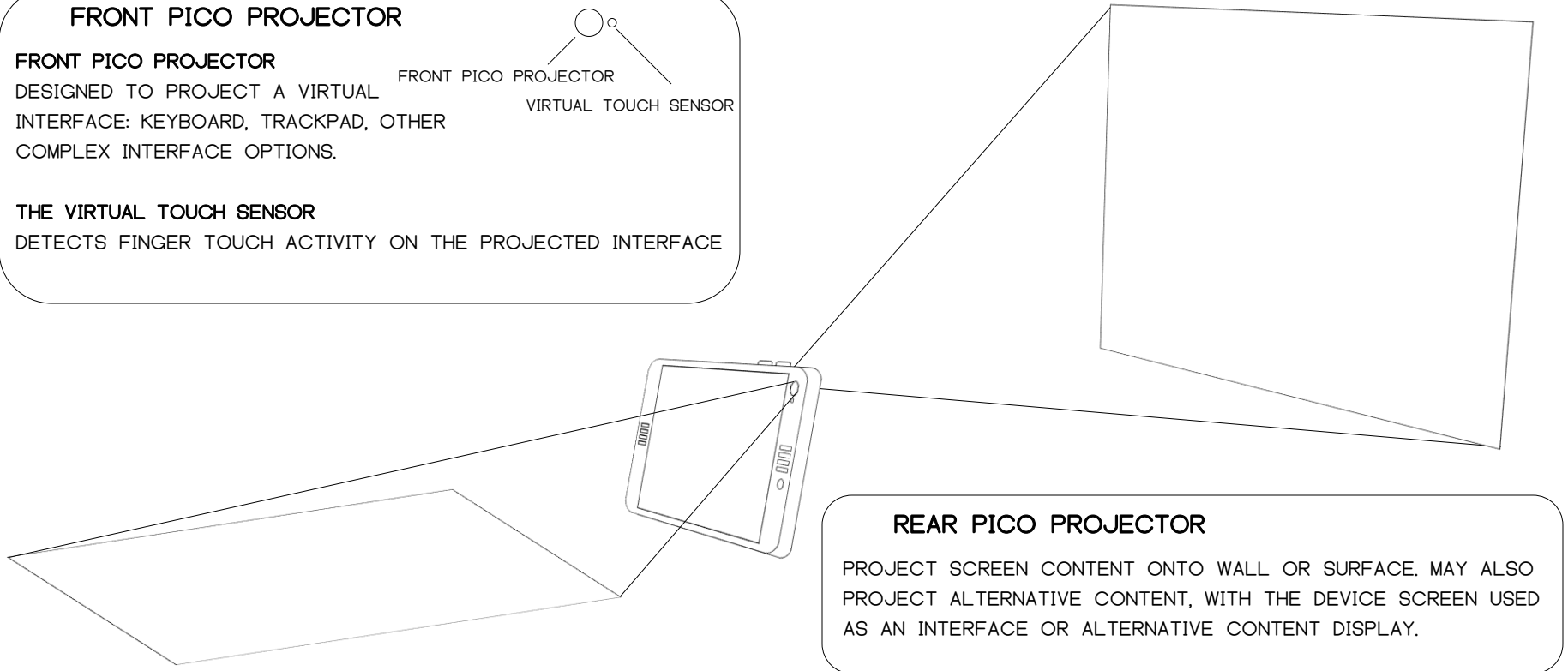
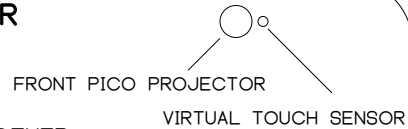
## FRONT PICO PROJECTOR

### FRONT PICO PROJECTOR

DESIGNED TO PROJECT A VIRTUAL  
INTERFACE: KEYBOARD, TRACKPAD, OTHER  
COMPLEX INTERFACE OPTIONS.

### THE VIRTUAL TOUCH SENSOR

DETECTS FINGER TOUCH ACTIVITY ON THE PROJECTED INTERFACE



## REAR PICO PROJECTOR

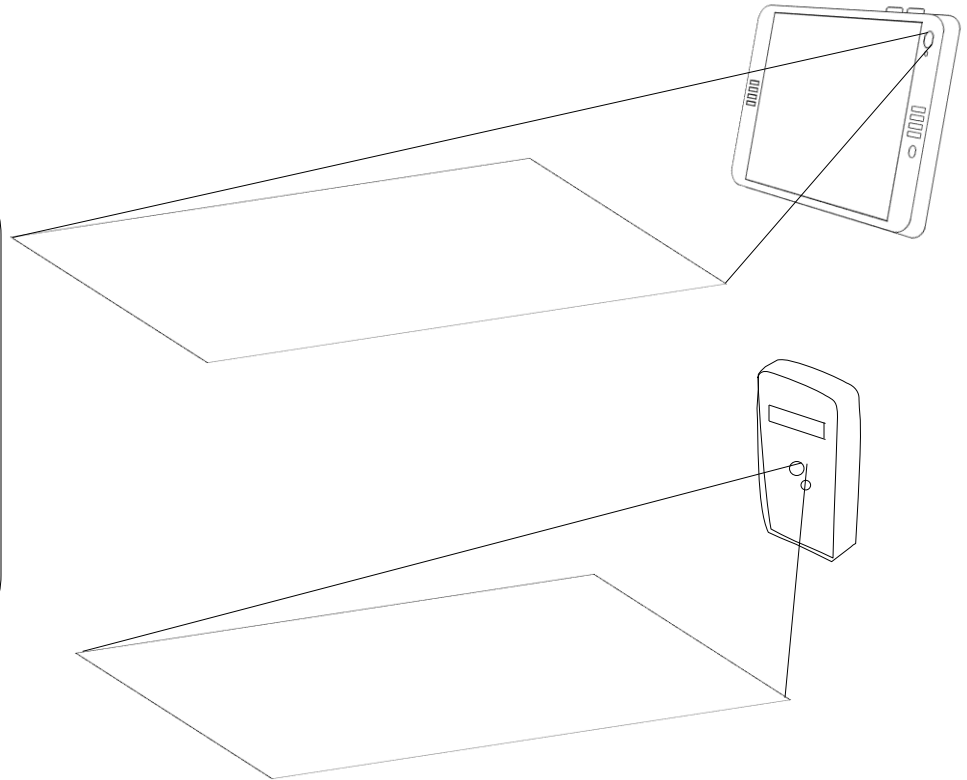
PROJECT SCREEN CONTENT ONTO WALL OR SURFACE. MAY ALSO  
PROJECT ALTERNATIVE CONTENT, WITH THE DEVICE SCREEN USED  
AS AN INTERFACE OR ALTERNATIVE CONTENT DISPLAY.

# VIRTUAL INTERFACES

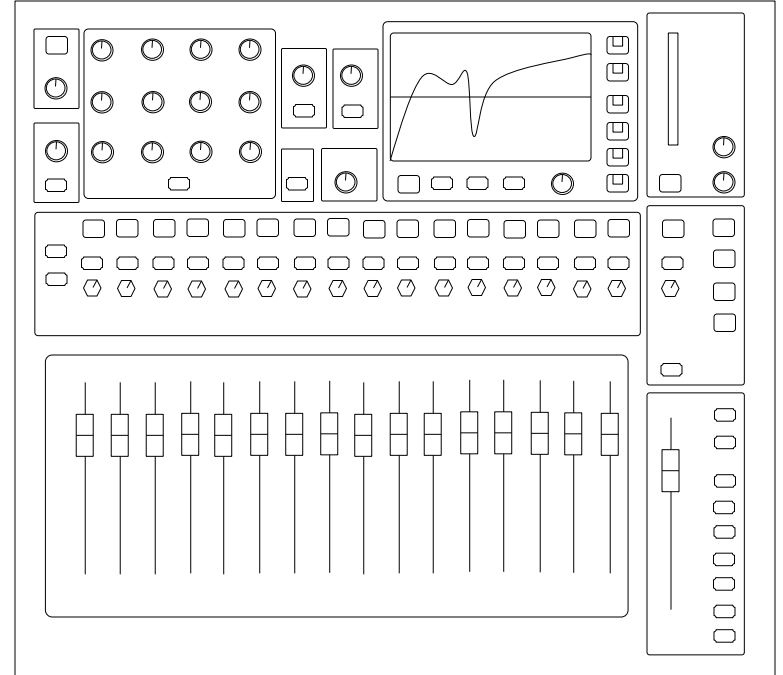
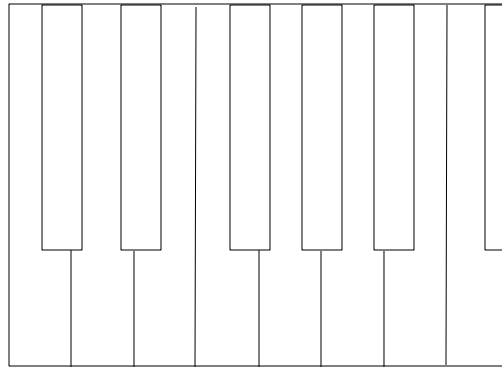
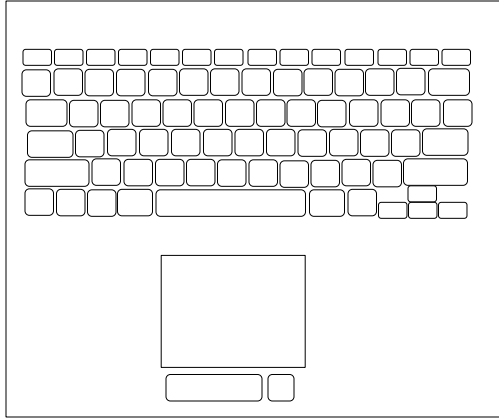
## PROJECTABLE VIRTUAL INTERFACE

- KEYBOARD
- TRACKPAD
- MUSICAL INSTRUMENT INTERFACE
- MULTI-TRACK RECORDING CONSOLE
- VIDEO EDITING TOOLS
- DJ MIXING TOOLS
- LCARS
- FLIGHT SIMULATOR CONTROLS

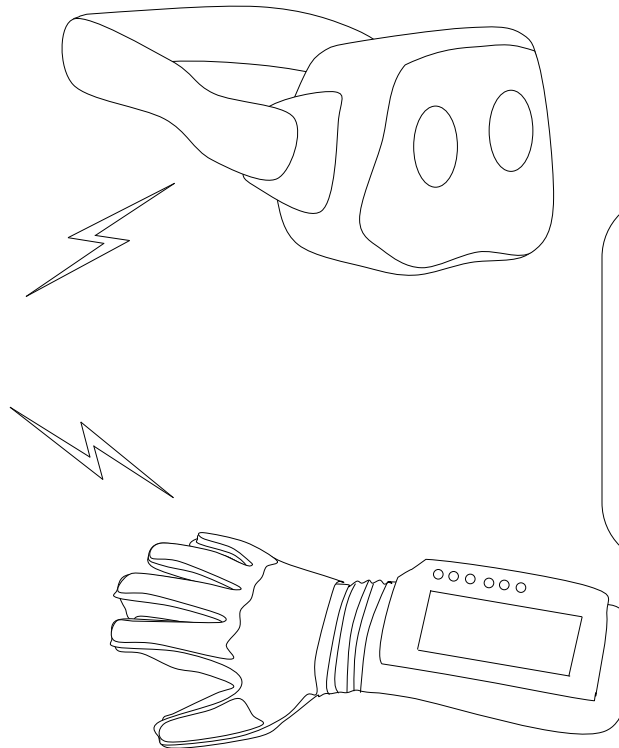
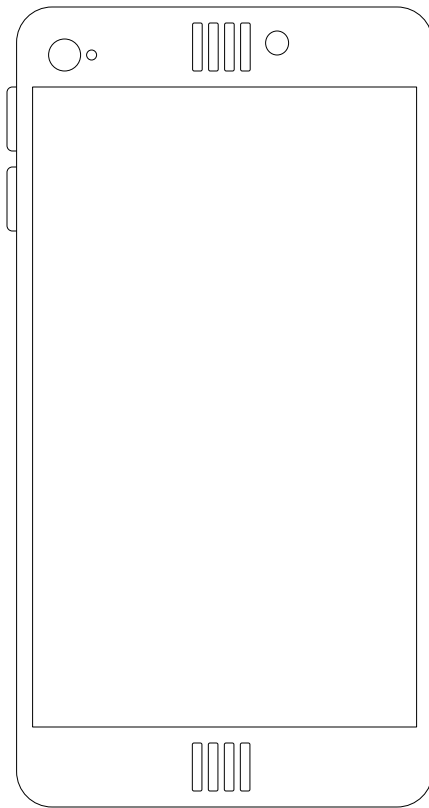
ADDITIONAL VIRTUAL INTERFACE DEVICES COULD BE WIRELESSLY CONNECTED TO PROVIDE A ROBUST AND CONFIGURABLE INTERFACE SUITE



# VIRTUAL INTERFACES



# VR/AR

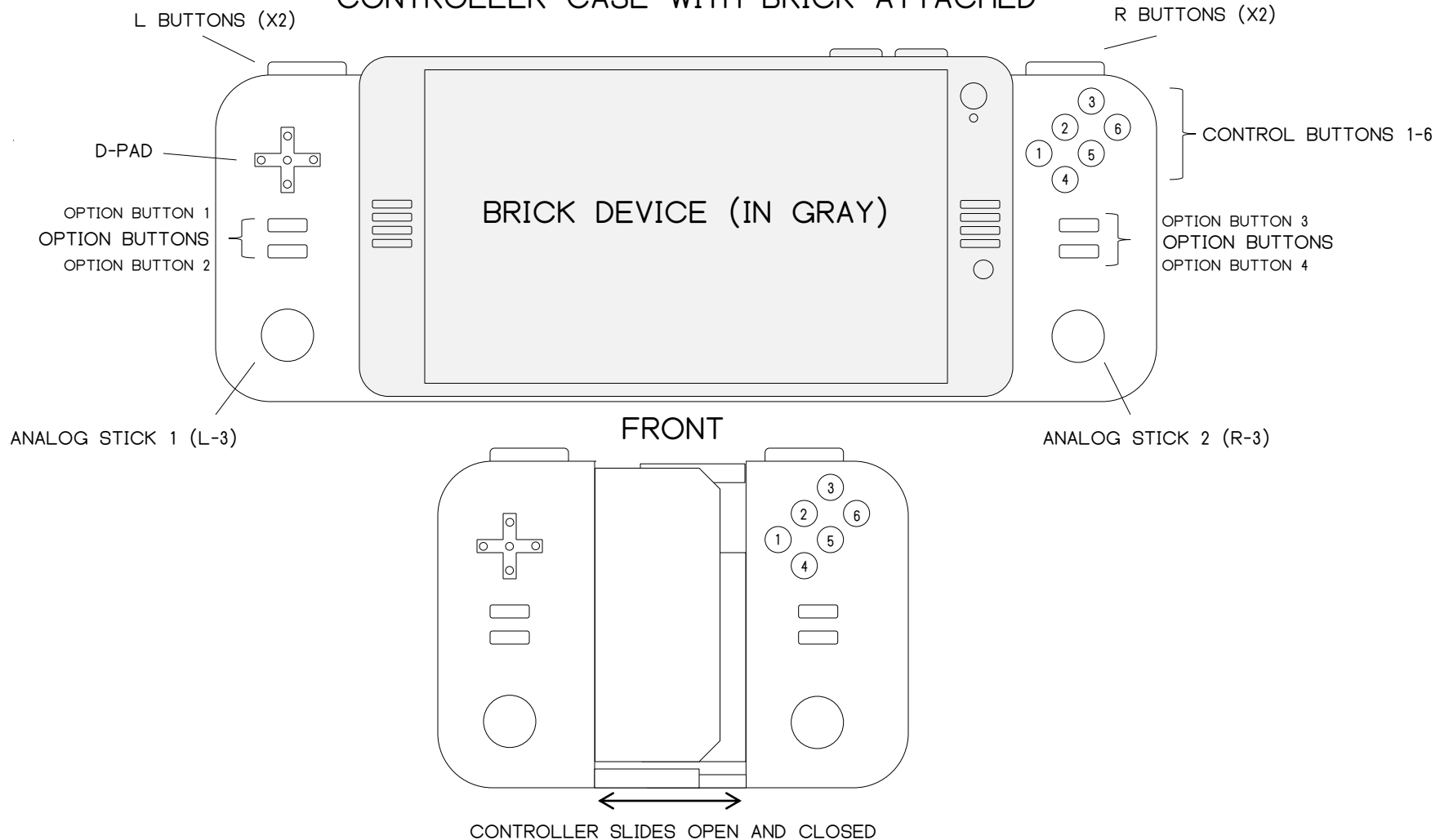


## VIRTUAL REALITY/AUGMENTED REALITY

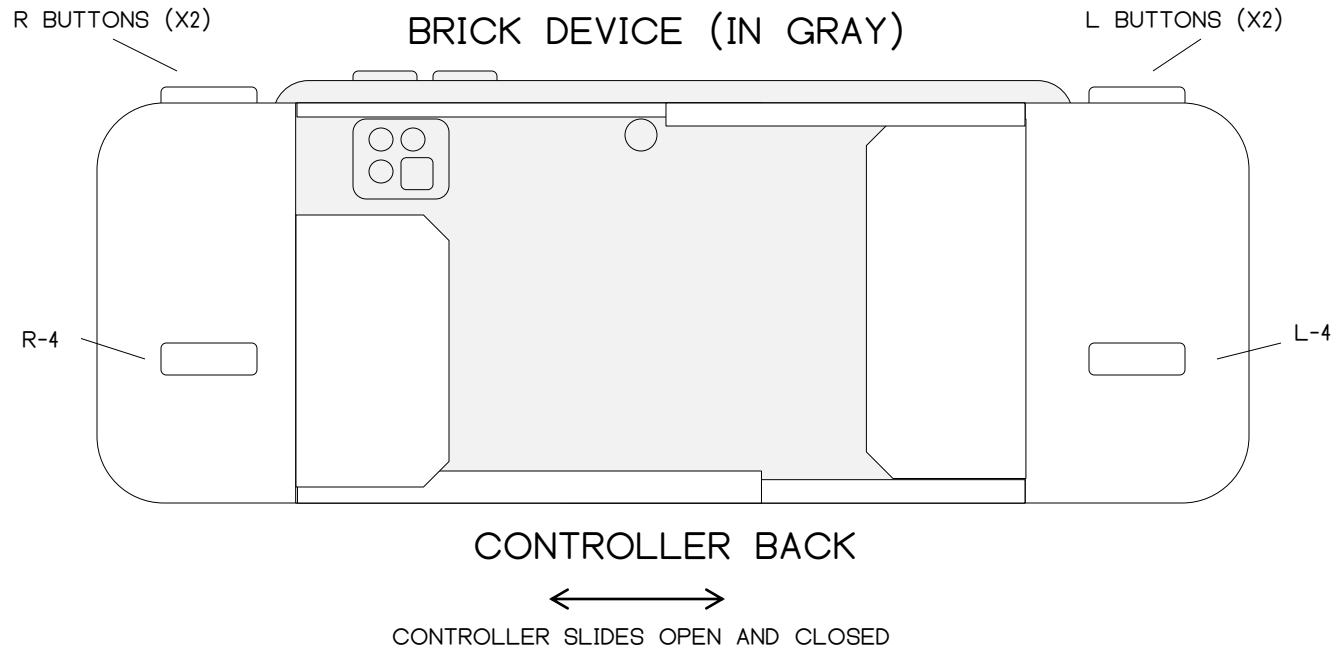
- WEARING THE BRICK, A VR/AR HEADSET CAN BE WIRELESSLY LINKED ALLOWING FULL VR/AR MOBILITY.
- OTHER RELEVANT PERIPHERALS (GLOVES, ETC.) CAN BE LINKED AS ADDITIONAL I/O DEVICES.
- EXTERNAL VIEWERS CAN OBSERVE THE USER'S VIEW BY LINKING IN EXTERNAL MONITOR(S) OR OTHER HEADSET(S).

# CONTROLLER CASE

## CONTROLLER CASE WITH BRICK ATTACHED

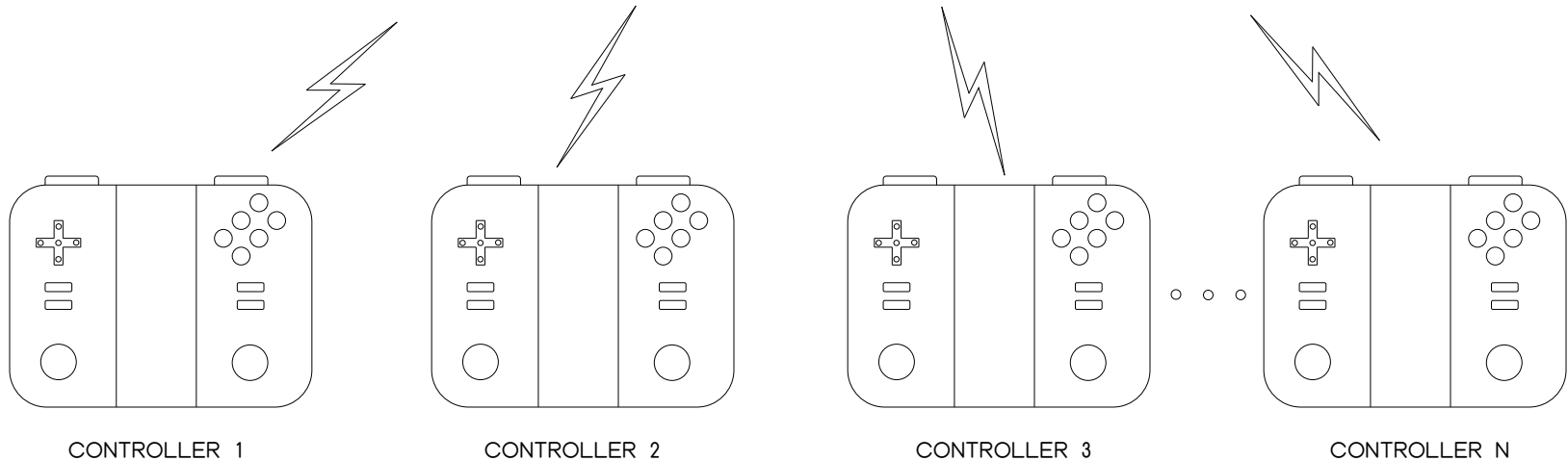
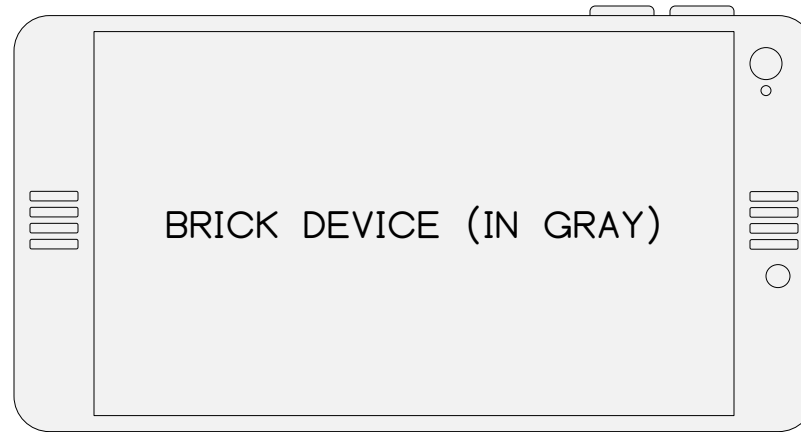


# CONTROLLER CASE

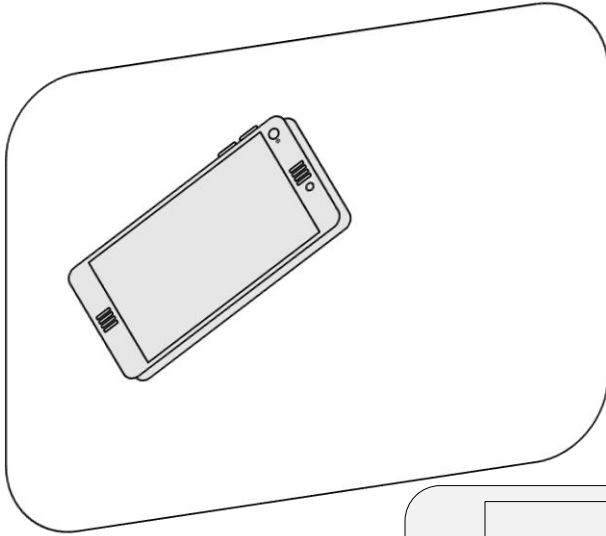


# MULTI-PLAYER GAMING

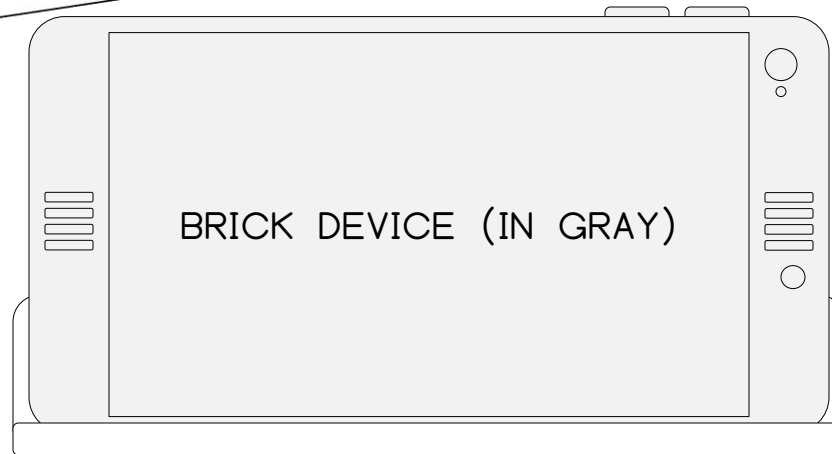
- THE BRICK ALLOWS ANY NUMBER OF EXTERNAL CONTROLLERS TO BE CONNECTED WIRELESSLY.
- THE CONTROLLERS DO NOT HAVE TO BE OF THE SAME TYPE.



# WIRELESS CHARGING



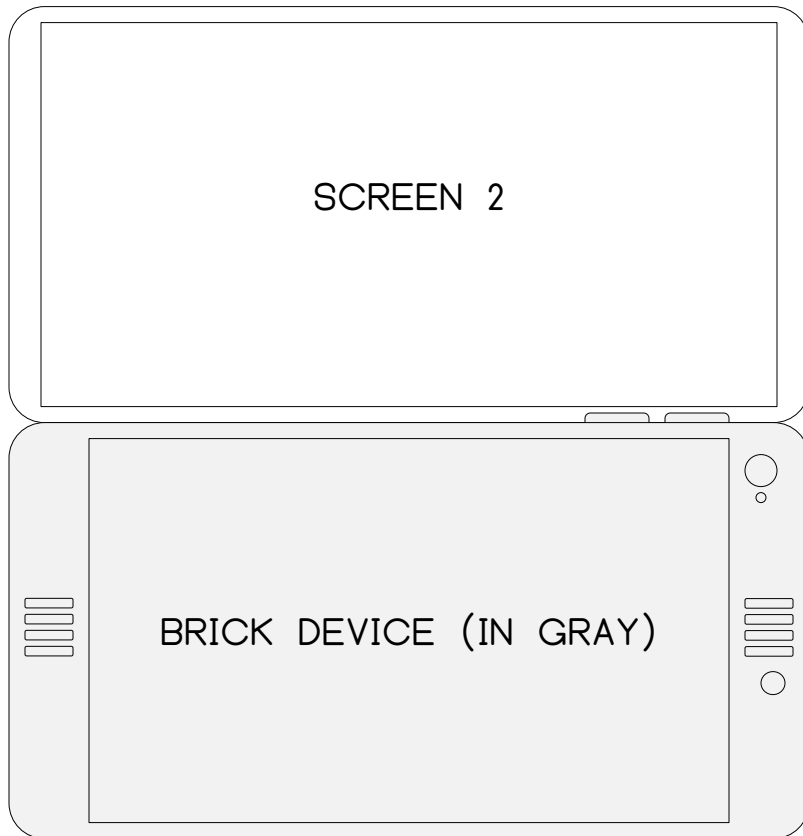
THE BRICK CAN BE CHARGED VIA INDUCTION ON A CHARGING MAT.



THE BRICK CAN ALSO BE PLACED IN A WIRELESS INDUCTION CHARGING DOCK.

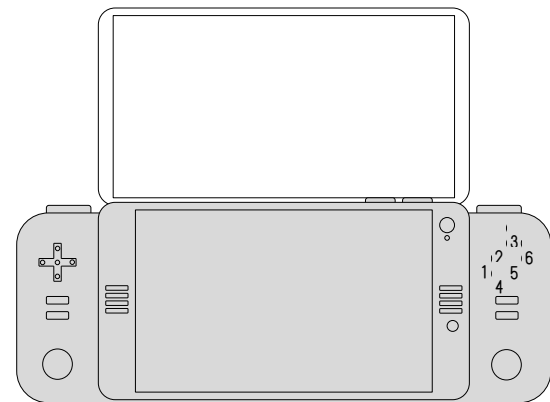


# SECOND MOBILE SCREEN

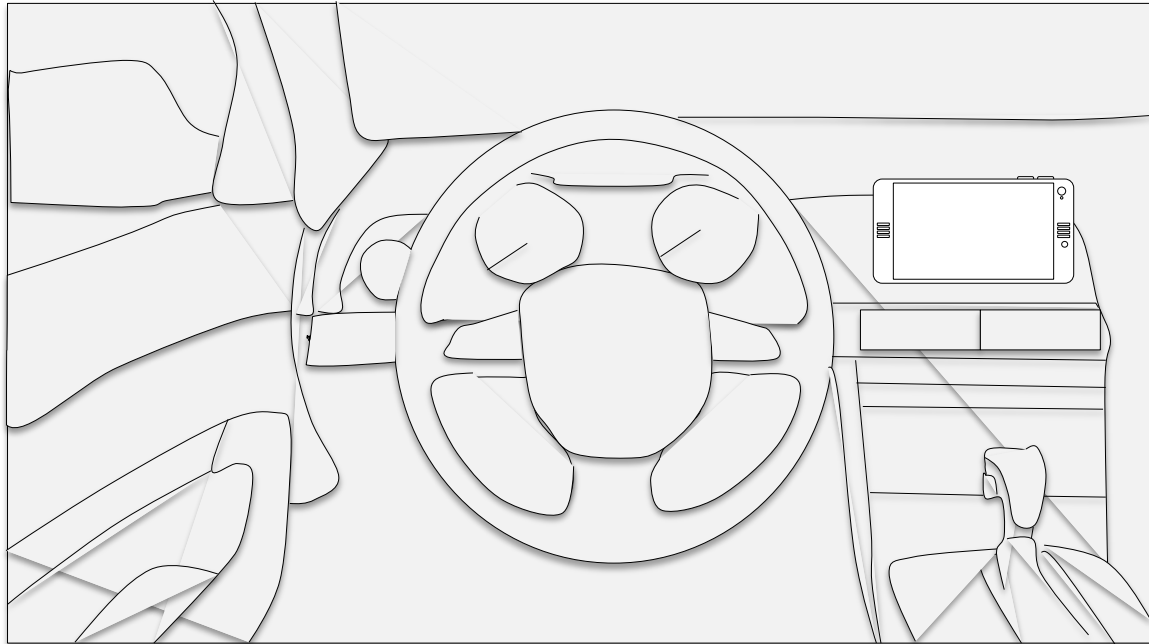


## SECOND SCREEN

- USING I/O ROUTING, A SECOND MOBILE SCREEN CAN BE ATTACHED.
- THIS SECOND SCREEN CAN BE CLAMSHELL FOLDED OVER TO FORM A PROTECTIVE CASE.
- USED WITH A CONTROLLER CASE, CAN PROVIDE A DELUXE “NINTENDO DS”-LIKE EXPERIENCE.



# CAR DOCK



## CAR DOCK

- HI PERFORMANCE MEDIA, ENTERTAINMENT AND NAVIGATION CENTER
- WIRELESS CONNECTIVITY TO CAR I/O SYSTEMS
- DOCK PROVIDES WIRELESS CHARGING
- PASSENGERS CAN USE TO DRIVE SECONDARY ENTERTAINMENT SCREEN
- PROVIDES ENTERTAINMENT CENTER FOR SELF-DRIVING CARS
- CAN PROVIDE WINDSHIELD AR FOR VEHICLES WITH EYETRACKING AR